



Service Bulletin

Bulletin No.: 21-NA-074

Date: March, 2021

TECHNICAL

Subject: Malfunction Indicator Lamp Illuminated On Driver Information Center (DIC) with DTC P0300 and/or P0299/P2227 Set

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Buick	Envision	2016	2020	-	-	Equipped with 2.0L Engine (RPO LTG)	All

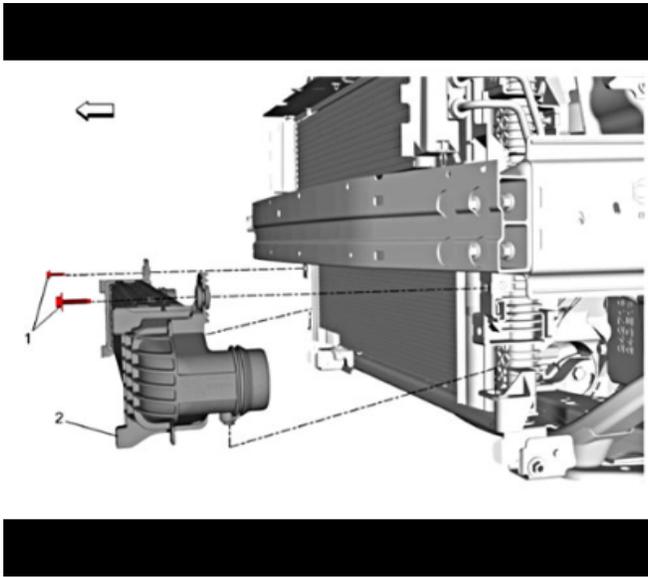
Involved Region or Country	United States, Canada
Condition	Some customers may comment on the Malfunction Indicator Lamp illuminated on Driver Information Center (DIC) or a reduced power complaint. Technicians may find one or more of the following DTCs set. <ul style="list-style-type: none"> • P0300 – Engine Misfire Detected • P0299 – Engine Underboost • P2227 – Barometric Pressure (BARO) Sensor Performance
Cause	This condition may be caused by a moisture build up inside the charge air cooler (CAC). This condition is more likely on the smaller displacement engines where an air-to-air charge air cooler is used. In cold temperatures, ambient and PCV moisture can freeze in the charge air cooler, restricting flow, and causing DTC P0299 and/or P2227, or P0300. In humid / rainy conditions, ambient moisture can build up in the charge air cooler, and on a subsequent acceleration be drawn into the engine setting a P0300 and possible stumble or sag.
Correction	Perform a smoke leak test of the charge air cooler, then follow the repair steps in the appropriate Service Procedure below, depending on the build date.

Important: DO NOT replace the CAC inlet or outlet ducts as part of this repair unless there is evidence of damage and/or a leak from either CAC duct.

Service Procedure - Charge Air Cooler Diagnosis

Important: Remove the boost sensor and wipe with a clean rag to remove residual moisture to ensure the sensor is not contaminated. **DO NOT** use chemical cleaners.

1. Perform a smoke leak test of the charge air cooler, using essential tool GE-52250 Power Smoke Diagnostic Leak Detector. Refer to Chart Based Conditions, below, for next steps.



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Important: The latest designed charge air cooler is wider, as shown in the picture above, and is NOT compatible with the existing lower baffle on vehicles built BEFORE January 5, 2019. The baffle will need to be replaced to accommodate the larger charge air cooler if the charge air cooler is being replaced

Chart Based Conditions			
Model Years	Condition	REPLACE Charge Air Cooler – (CAC) Refer to Charge Air Cooler Replacement in SI	Repair Other System Issue
2016-2020	CAC Leaking	X	-
2016-2019	CAC Frozen (Built Before January 5, 2019) *	X	-
2019-2020	CAC Frozen (Built After January 5, 2019)	Thaw, clean and reinstall CAC	Refer to SI
2016-2020	CAC Frozen AND Leaking	X	-

Chart Based Conditions			
Model Years	Condition	REPLACE Charge Air Cooler – (CAC) Refer to Charge Air Cooler Replacement in SI	Repair Other System Issue
2016-2020	CAC Not Frozen OR Leaking and no P0300	-	Refer to SI
2016-2019	CAC Not Frozen OR Leaking P0300 from driving in humid/rainy conditions (Built Before January 5, 2019) *	X	-
2016-2019	CAC Not Frozen OR Leaking P0300 from driving in humid/rainy conditions (Built After January 5, 2019) *	-	Refer to SI

Note: Replacement of the Charge Air Cooler is ONLY required if GM IVH (View Vehicle Build) indicated build date is Before January 5, 2019 AND GM IVH (View Transaction History Detail) indicates the CAC has not been previously replaced, or the part is damaged or leaking.

Parts Information

Causal Part	Description	Part Number	Qty
X	Charge Air Cooler	84634949	1
N/A*	BAFFLE, RAD AIR LWR	23350091	

*For warranty transactions, DO NOT mark this/these parts as the Causal Part. Enter the word "Bulletin" in the Causal Part Description free-flow text field.

Warranty Information

For vehicles repaired under the Powertrain coverage, use the following labor operation. Reference the Applicable Warranties section Of Investigate Vehicle History (IVH) for coverage information.

Labor Operation	Description	Labor Time
4087008*	Perform Smoke Test for Charge Air Cooler and Charge Air Cooler Replacement	2.3 hrs. (Envision)
*This is a unique Labor Operation for Bulletin use only.		

Version	1
Modified	Released March 24, 2021

